Watersheds: Foundation for Improved Project Plans

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Baltimore, MD

Robert Barron, Timothy Feather, John Hall

US Army Corps of Engineers
Jacksonville District

PMCL@CDM
A CDM Company

Understand the Watershed

- USACE Planning and Regulatory activities all happen in watersheds
- Goal is to effectively protect and develop water resources
- Wealth of people, issues, information available to support watershed planning process and project decisions
- How do we formally embrace watershed context in our decision-making?

Waterbodies - Permit Authority

- Clean Water Act of 1972
  - The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

    33USC Sec. 1251 (a)
  - Section 404: Permit required for placement of Fill
- Section 10, Rivers & Harbors Act of 1899
- Section 103, Marine Protection, Research & Sanctuaries Act of 1972

Jurisdiction Combines Geography & Activity

	Geographic	Activity
Section 10	Navigable Waters of U.S.	Fill, Excavate, Struct
Section 404	Waters of U.S., incl wetlands.	Fill.
Section 103	Ocean	Transport of fill m

No Corps Permit Required for the following…

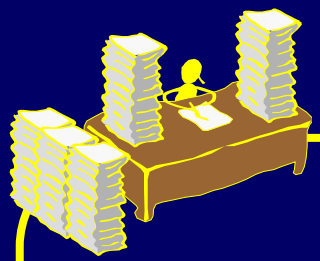
Geographic: wetland is jurisdictional
Activity: Excavation only - no fill.

Geographic: wetland is “isolated”
Activity: Fill.

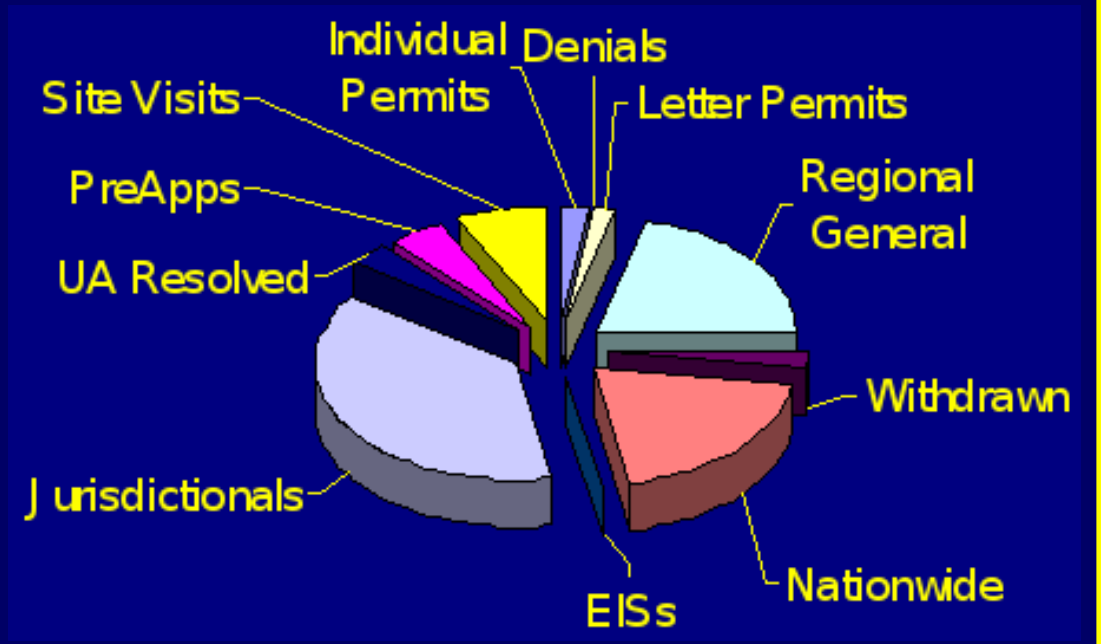
Decision Process Repeated for Each Permit

- Landowner identifies/designs project.
  - Jurisdiction confirmed (e.g., wetland?)
  - Public Notice mailed to neighbors, public, agencies.
- Issues/information coordinated agencies & applicant.
- Leads to preparation of evaluation.
  - Disclosure of effects & alternatives (NEPA.)
  - Compliance with other laws.
- Decision (Permit Issued or Denied).

The Challenge: Workload/Resources

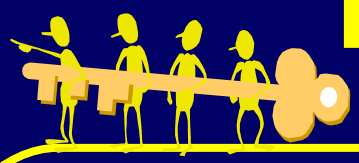


Standard Permits 4,023
Nationwide 35,768
Regional 38,125
Letter Permission 3,258
Denials 128
Withdrawn 4,143
Jurisdictional 68,843
UA Resolved 5,768
Site Visits 13,281
Pre-Apps 8,535
EISs 234



182,106 tasks=>1,170 Persons (incl secty, etc.) =>155 tasks/persons

Forms of Corps Permits



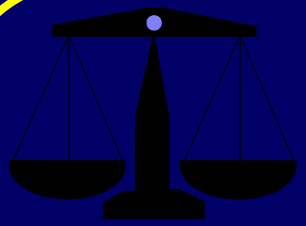
Process

- Individual Permits
  - Standard Permits
  - Letters of Permission
- General Permits
  - Nationwide Permits
  - Regional Permits
  - State Program General

Scale

- Single Family
- Shopping Centers
- Highways
- Schools
- Master Planned Communities

Evaluation / Decision



- 22 Public Interest Factors. <u>Balance.</u> Is not contrary to public interest?

Conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife, flood hazards, floodplains, land use, navigation, shore erosion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, ...

- 404(b)(1) Guidelines. Presumes non-wetland alternative available. Is least damaging practicable alternative?

- Mitigation to support goal of “no overall net loss of values and functions”

Mitigation for . . ?

- 33CFR320.4 Policies for evaluating applications.

  (b) Wetlands. "Most wetlands constitute a productive and valuable resource...Wetlands considered to perform functions important to the public interest include..."

  (r) Mitigation. "... for resource losses."

- 33CFR325.4 "Permit conditions will be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts,...."

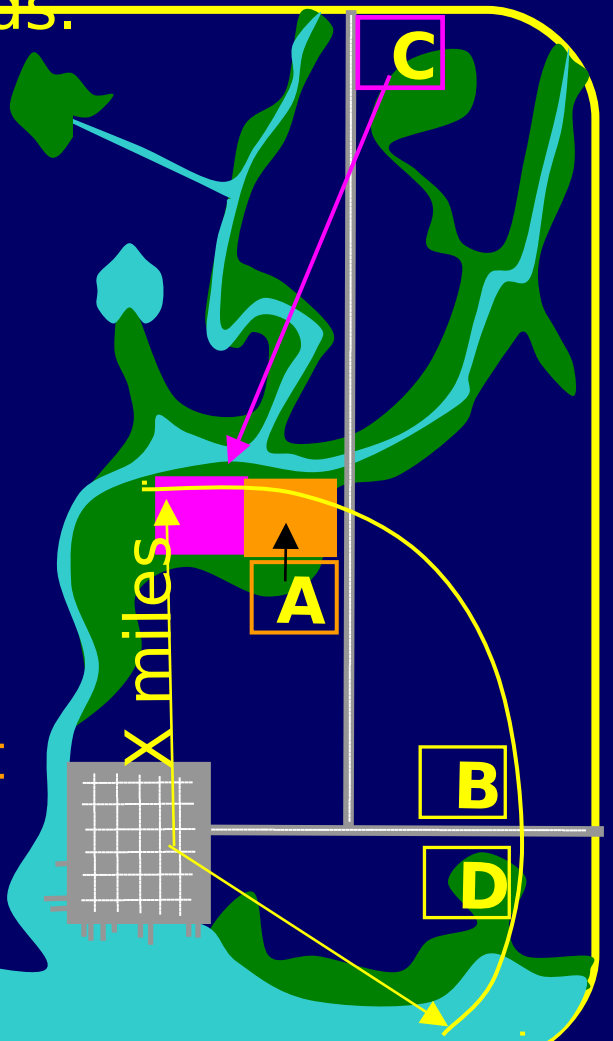
Importance

Structure	Function	Service
Pavement	*Roadway*	*Travel*
Marsh (Plants)	*Fish Nursery*	*Fishing*
Marsh (Depression)	*Runoff Attenuation*	*Flood Damage*

We Measure — **We Value**

I'd rather'd you stay'd out of ~~wetlands~~.

- Avoid. Geographic criteria/search.
- Minimize. Adjust site plan.
- Compensate. A on-site/adjacent
  C off-site.



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South Florida Drivers

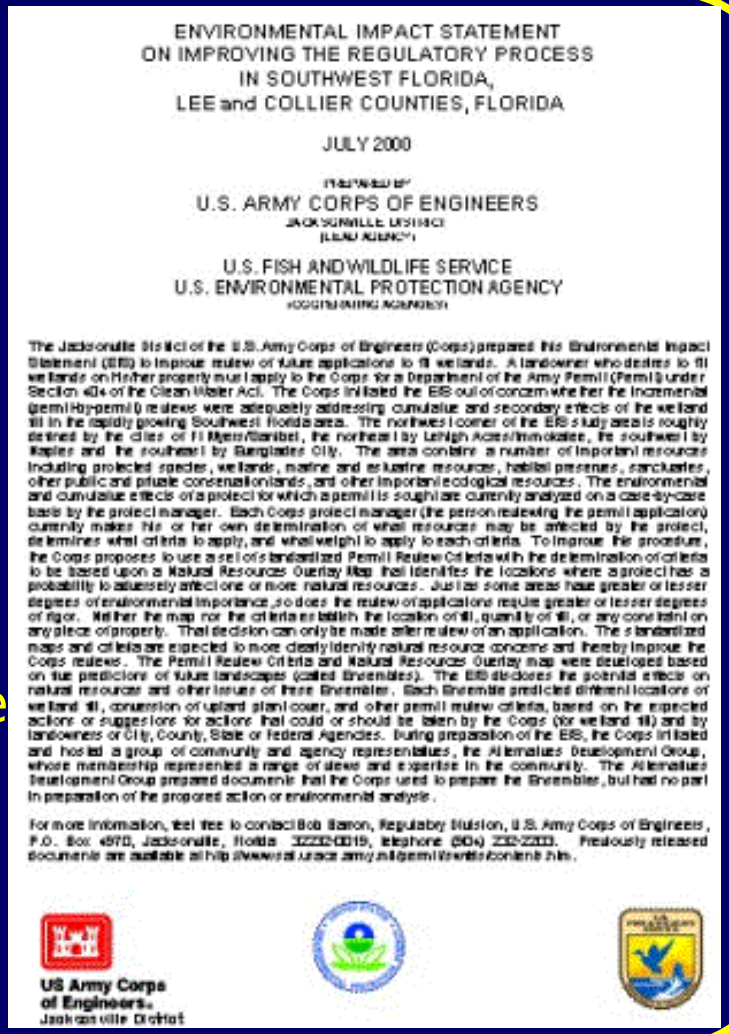
- Permits under Section 404 CWA – extremely high permit workload
- Strong economic development pressures
- Recurring environmental issues: endangered species, wetland impacts, habitat, water quality
- Corps “reinventing some wheels” in permit review
- Cumulative and secondary impacts “catching up”

Florida Regulatory Strategy

- Examine the affected environmental and social systems holistically
- Utilize EIS as an instrument
- Create and evaluate alternatives with input from organized stakeholder group

Southwest Florida EIS

- Why Southwest Florida?
  - High permit workload.
  - Environmental sensitive area.
  - Recurring issues in permit reviews.
- Why?
  - Identify potential cumulative effects.
  - Information for staff and public.



ENVIRONMENTAL IMPACT STATEMENT
ON IMPROVING THE REGULATORY PROCESS
IN SOUTHWEST FLORIDA,
LEE and COLLIER COUNTIES, FLORIDA

JULY 2000

U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT
(LEAD AGENCY)

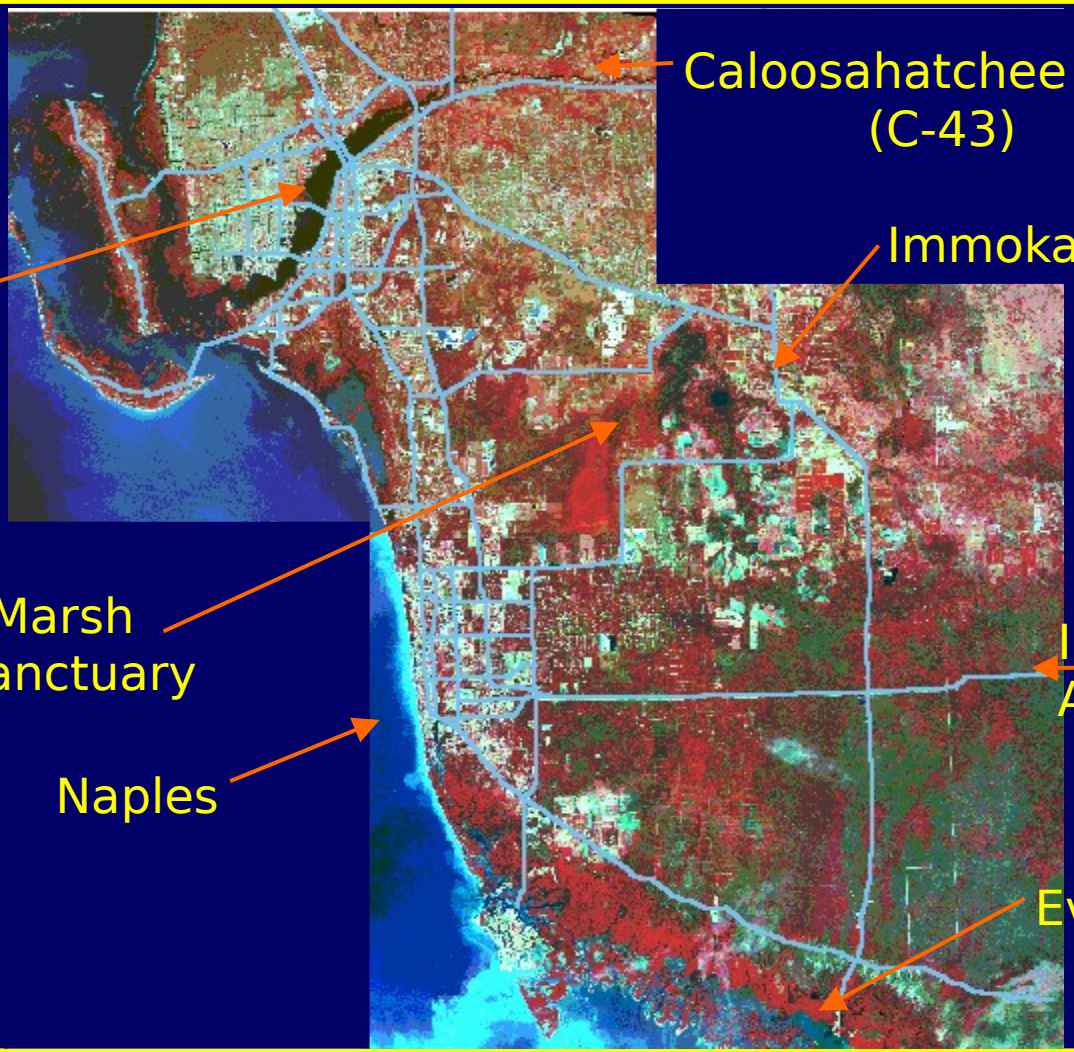
U.S. FISH AND WILDLIFE SERVICE
U.S. ENVIRONMENTAL PROTECTION AGENCY
(COOPERATING AGENCIES)

The Jacksonville District of the U.S. Army Corps of Engineers (Corps) prepared this Environmental Impact Statement (EIS) to improve review of future applications to fill wetlands. A landowner who desires to fill wetlands on his/her property must apply to the Corps for a Department of the Army Permit (Permit) under Section 404 of the Clean Water Act. The Corps initiated the EIS out of concern whether the incremental (permit-by-permit) reviews were adequately addressing cumulative and secondary effects of the wetland fill in the rapidly growing Southwest Florida area. The northwest corner of the EIS study area is roughly defined by the cities of Ft Myers/Cleveland, the northeast by Lehigh Acres/Immokalee, the southwest by Naples and the southeast by Everglades City. The area contains a number of important resources including protected species, wetlands, marine and estuarine resources, habitat preserves, sanctuaries, other public and private conservation lands, and other important ecological resources. The environmental and cumulative effects of a project for which a permit is sought are currently analyzed on a case-by-case basis by the project manager. Each Corps project manager (the person reviewing the permit application) currently makes his or her own determination of what resources may be affected by the project, determines what criteria to apply, and what weight to apply to each criteria. To improve this procedure, the Corps proposes to use a set of standardized Permit Review Criteria with the determination of criteria to be based upon a Natural Resources Overlay Map that identifies the locations where a project has a probability to adversely affect one or more natural resources. Just as some areas have greater or lesser degrees of environmental importance, so does the review of applications require greater or lesser degrees of rigor. Neither the map nor the criteria establish the location of fill, quantity of fill, or any constraint on any piece of property. That decision can only be made after review of an application. The standardized maps and criteria are expected to more clearly identify natural resource concerns and thereby improve the Corps reviews. The Permit Review Criteria and Natural Resources Overlay map were developed based on five predictions of future landscapes (called Ensembles). The EIS discloses the potential effects on natural resources and other issues of these Ensembles. Each Ensemble predicted different locations of wetland fill, conversion of upland plant cover, and other permit review criteria, based on the expected actions or suggestions for actions that could or should be taken by the Corps (for wetland fill) and by landowners or City, County, State or Federal Agencies. During preparation of the EIS, the Corps initiated and hosted a group of community and agency representatives, the Alternatives Development Group, whose membership represented a range of views and expertise in the community. The Alternatives Development Group prepared documents that the Corps used to prepare the Ensembles, but had no part in preparation of the proposed action or environmental analysis.

For more information, feel free to contact Bob Barron, Regulatory Division, U.S. Army Corps of Engineers, P.O. Box 4970, Jacksonville, Florida 32232-0019, telephone (904) 232-2233. Previously released documents are available at http://www.saj.usace.army.mil/permit/eventdocuments.htm.

US Army Corps of Engineers.
Jacksonville District

Landscape


Caloosahatchee River
(C-43)
Immokalee
Fort Myers
Corkscrew Marsh
Audubon Sanctuary
Interstate 75
Alligator Alley
Naples
Everglades City

Charge … Planning Statement

ADG Charge

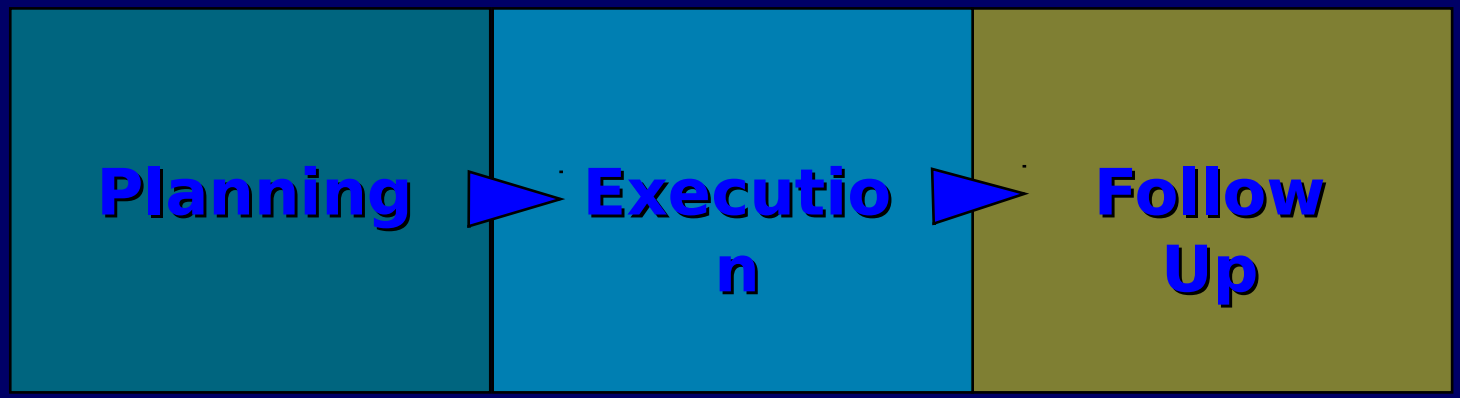
Report on alternatives for improving the regulatory process to:

- ***Protect Natural Environmental Values***
- ***Provide for Sustainable Economic Growth***
- ***Manage Appropriate Changes in Water Flows and Quality***
- ***Respect public Involvement and Private Rights***

The ADG will collectively develop alternatives, evaluate the merits of each and seek consensus on recommendations

Consensus Based Planning

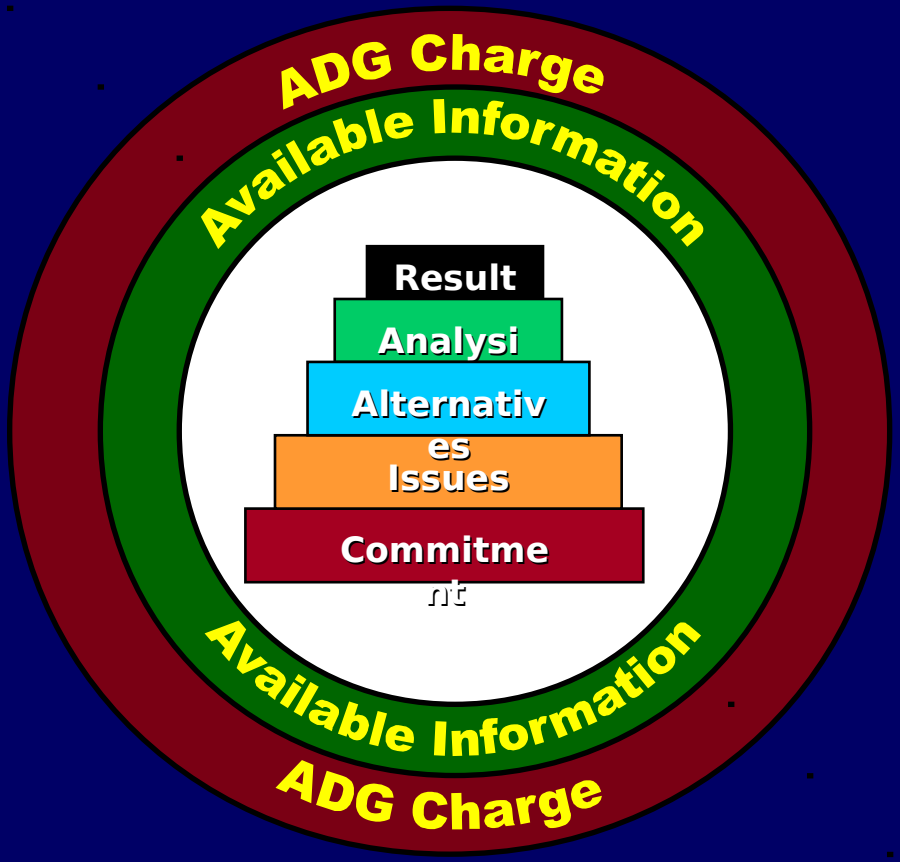
Resource Planning Initiatives Greatly Enhanced Through Collaborative Planning

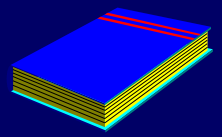


Efficient Collaborative Planning Promoted by Effective Communication Among Stakeholders

ADG Process

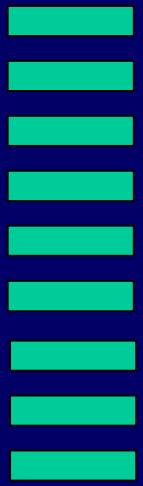
- Consensus based planning process
- Broad scope of interests - 33 members
- Ten 2-day meetings over 6 months
- Professionally facilitated and managed
- Full documentation



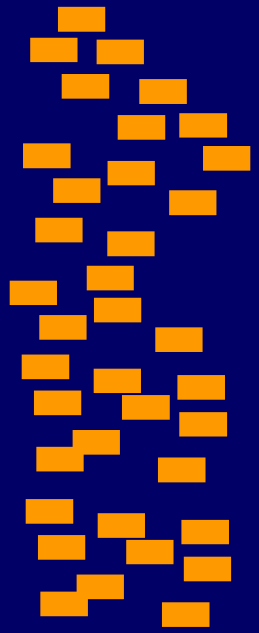


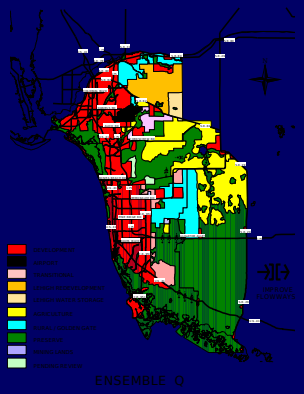
Evaluation

>DESCRIBES ISSUES OF INTEREST TO PUBLIC AND EXISTING CONDITIONS

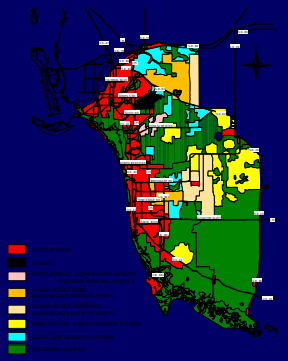


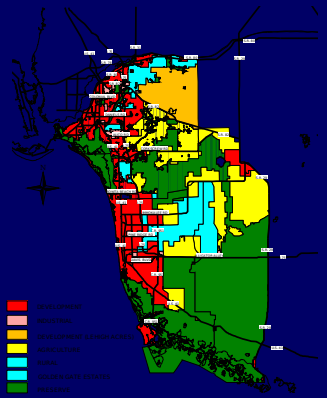
>PRESENTS EVALUATION FACTORS FOR THESE ISSUES

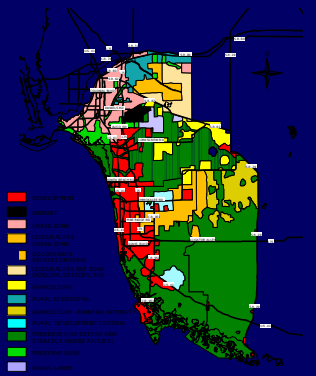


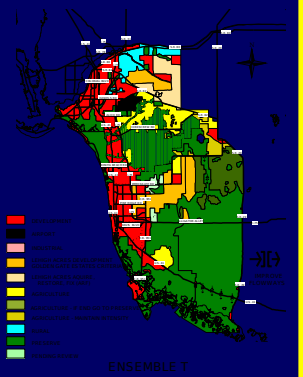


>COMPARES EFFECTS OF FIVE FUTURE SCENARIOS









Summary of Evaluation Factors

Issue Category	Number of Factors	Summary Points
Property Rights	3	Comprehensive plan established expectations
		Comprehensive plan is the standard to which all other alternatives were compared
Water Management	7	Improve flowways, reduce flood damages, and improve water supply
		Best professional judgement
Water Quality	5	Land use types used to estimate water quality

Summary of Evaluation Factors

Issue Category	Number of Factors	Summary Points
Ecosystem Function, Wildlife Habitat, and Listed Species	12	GIS assist qualitative judgement
		Current habitat and sighting maps compared to all alternatives to determine impacts
Regulatory Efficiency and Effectiveness	3	Many factors but hard to measure
		Use quantity and functionality of wetlands and habitat impacted as a surrogate for permit review time and level of effort
Economic Sustainability	7	Models identified but require greater detail and time than available
		Best professional judgement

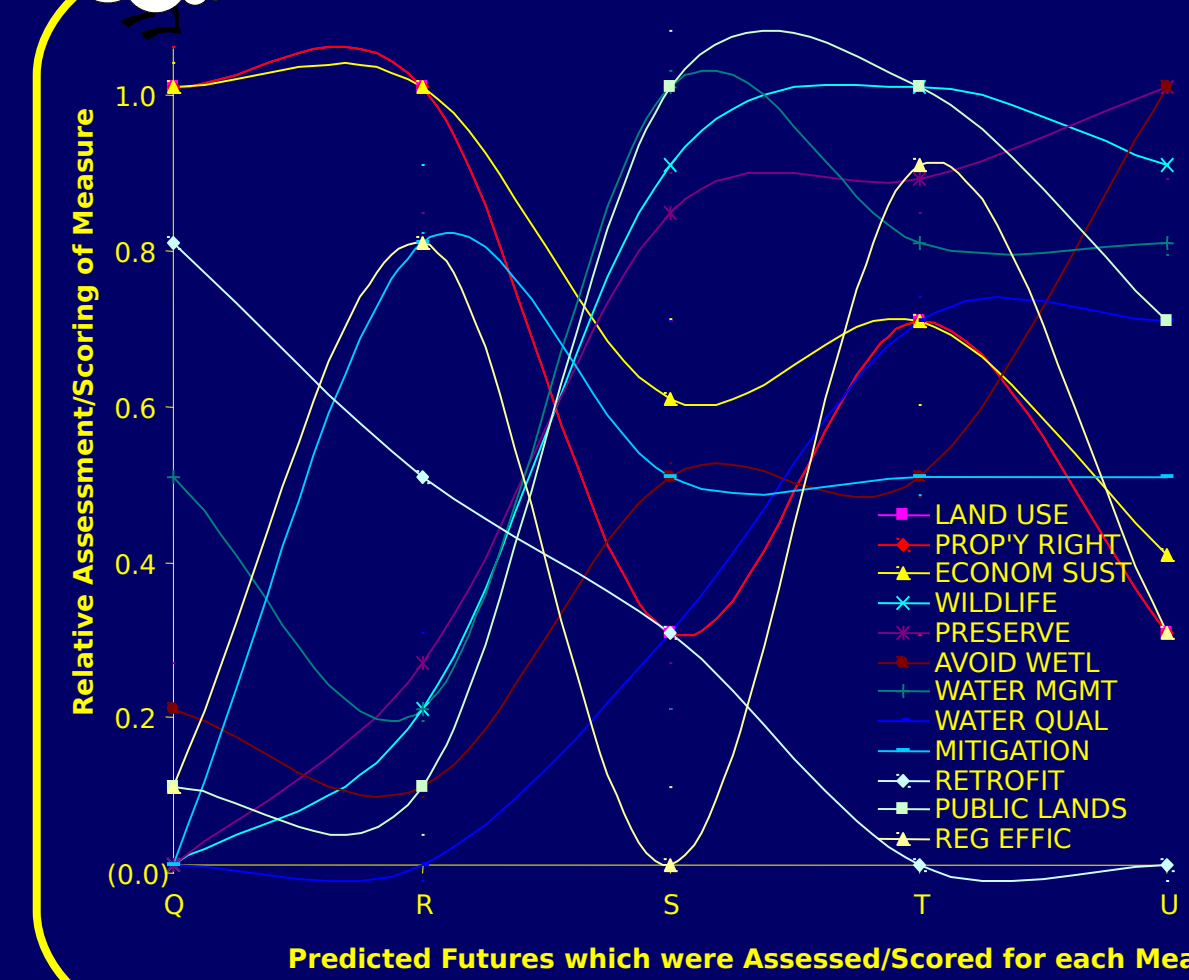
Summary of Evaluation Factors

Issue Category	Number of Factors	Summary Points
Local Land Use Policy	2	Comprehensive plan is the local land use policy
		Comprehensive plan is the standard to which all other alternatives were compared
Avoidance of Wetland Impacts	2	GIS assisted
		Index of number of acres at risk calculated
Mitigation	2	GIS assisted
		Index of mitigation opportunities calculated

Summary of Evaluation Factors

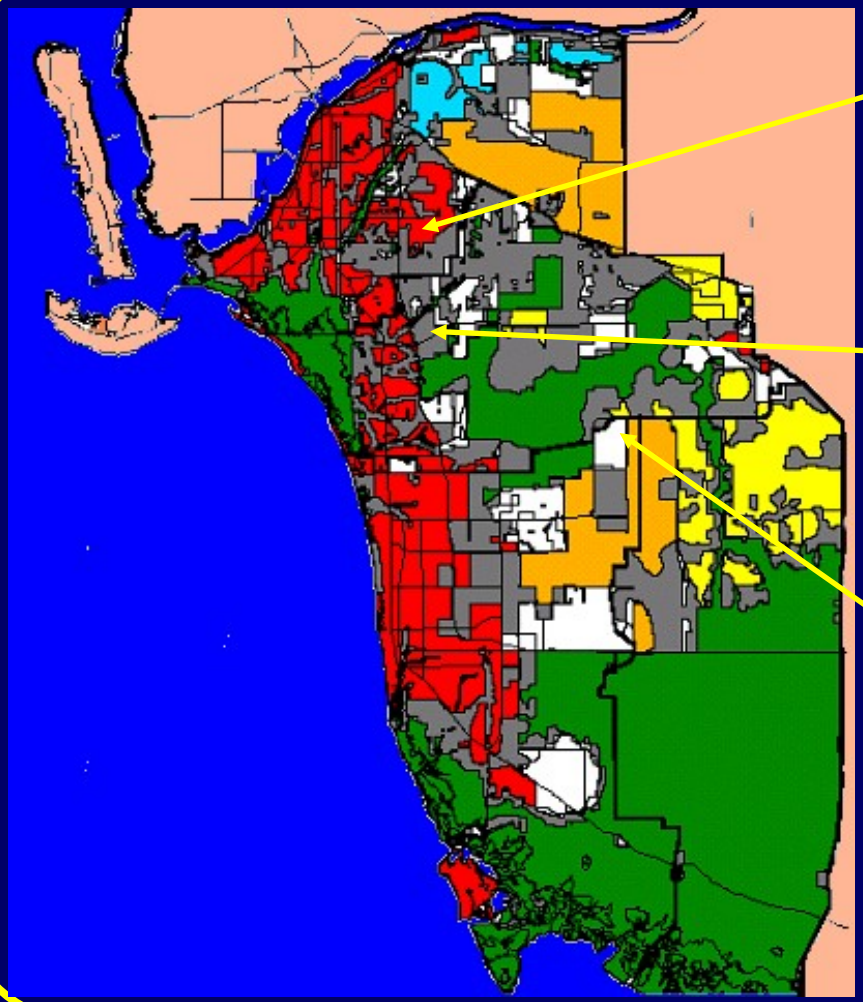
Issue Category	Number of Factors	Summary Points
Cumulative & Secondary Impacts	10	Social and environmental impacts
		Best professional judgement used to rank the alternatives
Restoration/ Retrofit	5	Flowways and habitat restoration
		Oppoortunities seen within residential and agricultural land
Public Lands Management/Use	1	Adjacent land use types indicate compatibility
		GIS utilized

Compare/Contrast the Measures



- For this chart, each individual assessment was converted to a relative 0-1 score.
- Shows cumulative assessments for each issue vary widely over range of futures.
- So, is the “preferred future” the one where all the cumulative assessments intersect?

Overlay of ADG Alternatives



- Colored areas: where visions agreed. Can expedite permitting.
- Gray areas: some disagreement, usually over one or so issues. Now know what project issues will be.
- White areas: Large disagreement. Challenging permitting situation.

Understand the Watershed

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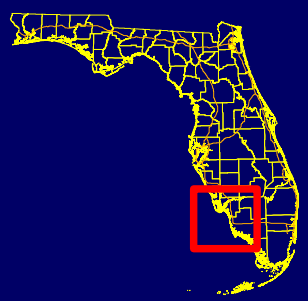
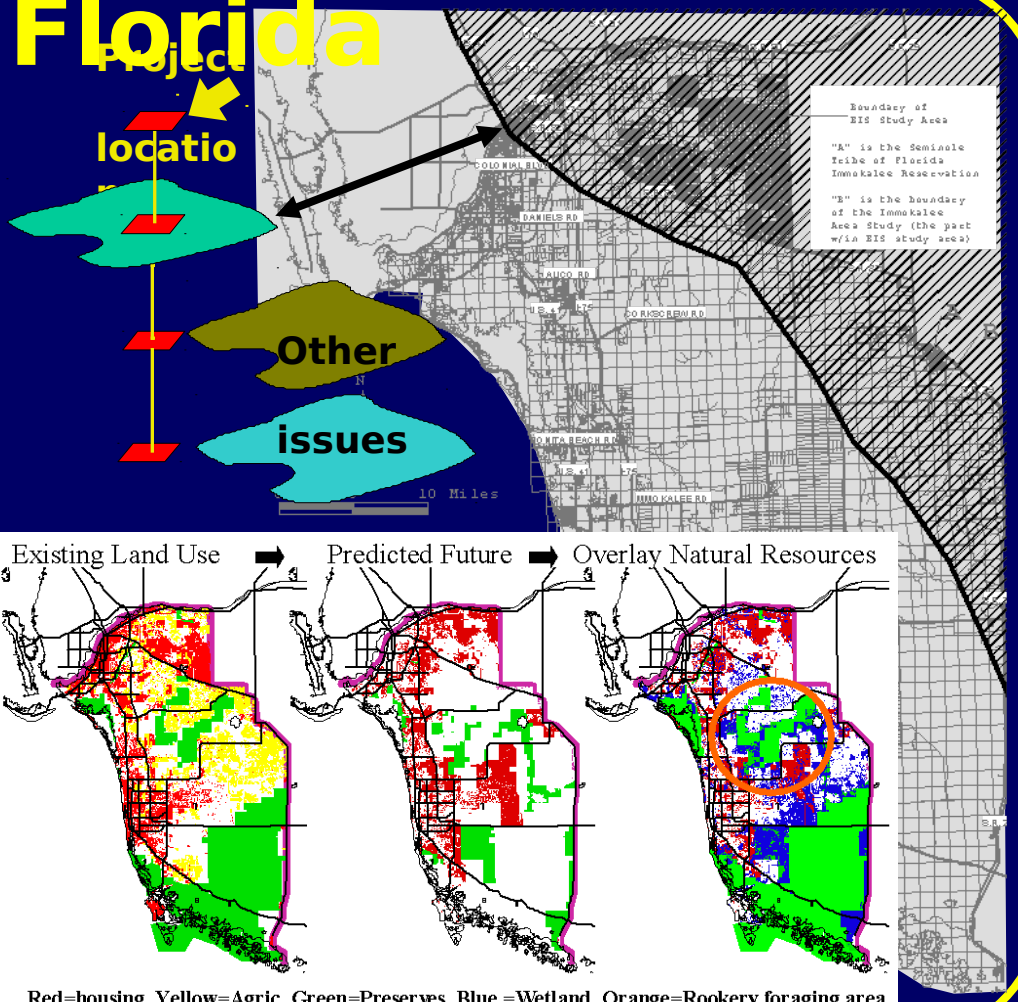
- How do we formally embrace watershed context in our decision-making?

Example #1 - Southwest Florida

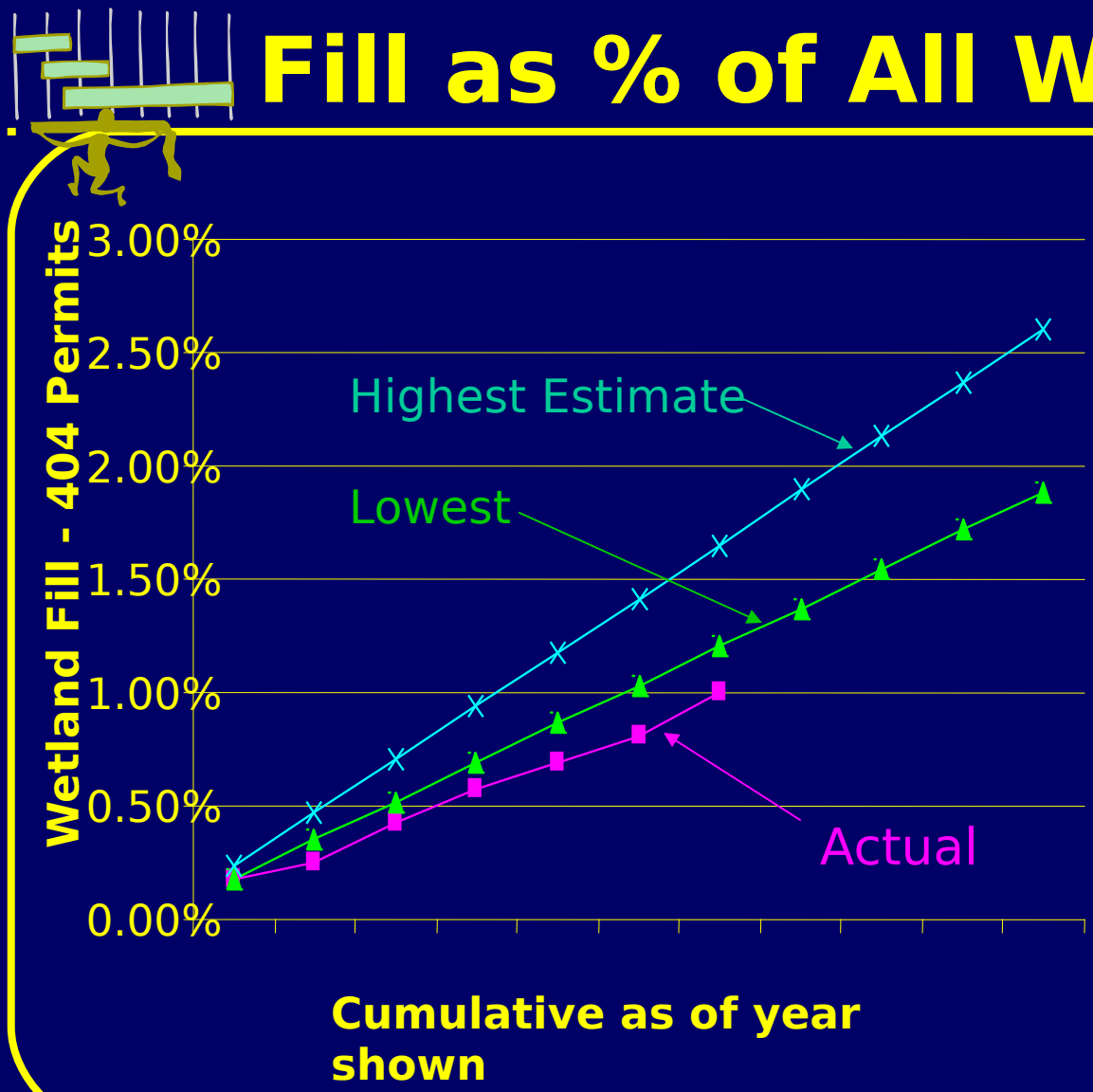




- Assessed potential effects on many factors.
- Mapped areas of greater concern.
- Large area.

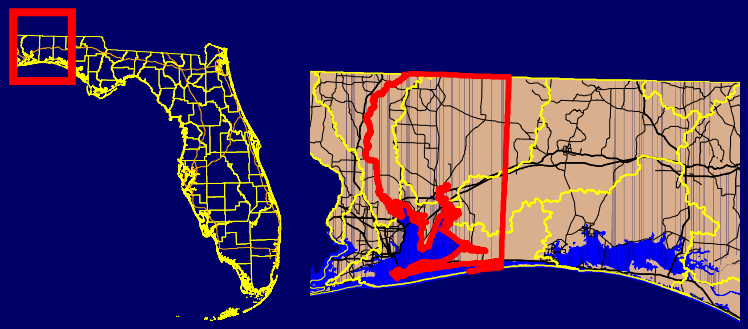
Existing Land Use
Predicted Future
Overlay Natural Resources
Red=housing, Yellow=Agric, Green=Preserves, Blue =Wetland, Orange=Rookery foraging area

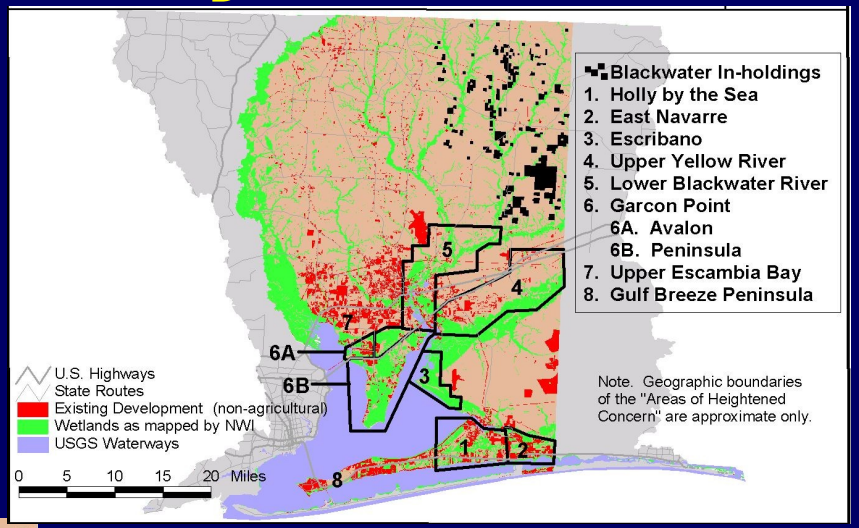
Fill as % of All Wetlands

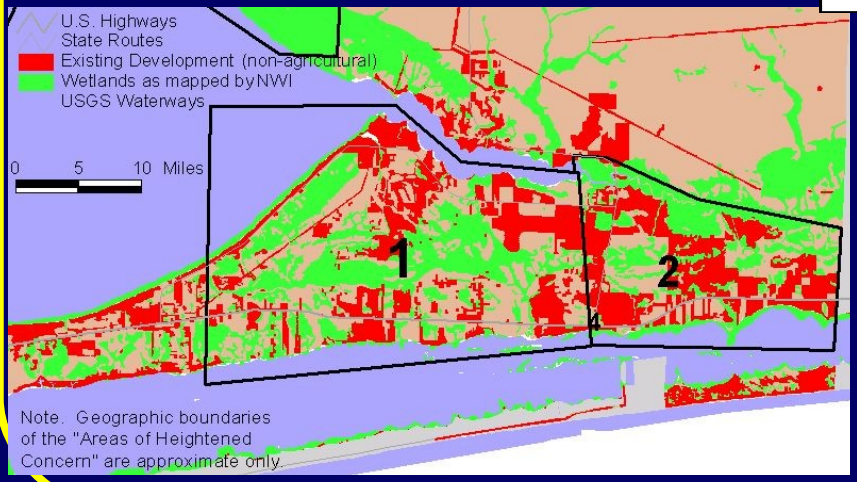


- In this case, have a range of possible future effects, therefore can compare to actual.
- Also need to consider location and other factors for ecological functional delta.

Example #2: Santa Rosa County

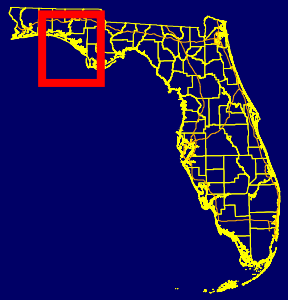






- Areas of heightened concern.
- Identified what was valuable.
- Developed ecological goals.

Example #3: Regional General Permit 86



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
PANAMA CITY REGULATORY OFFICE
475 HARRISON AVENUE, SUITE 202
PANAMA CITY, FLORIDA 32401-2731

Regulatory Division
North Permits Branch
North Permits Section

AUG 29 2003

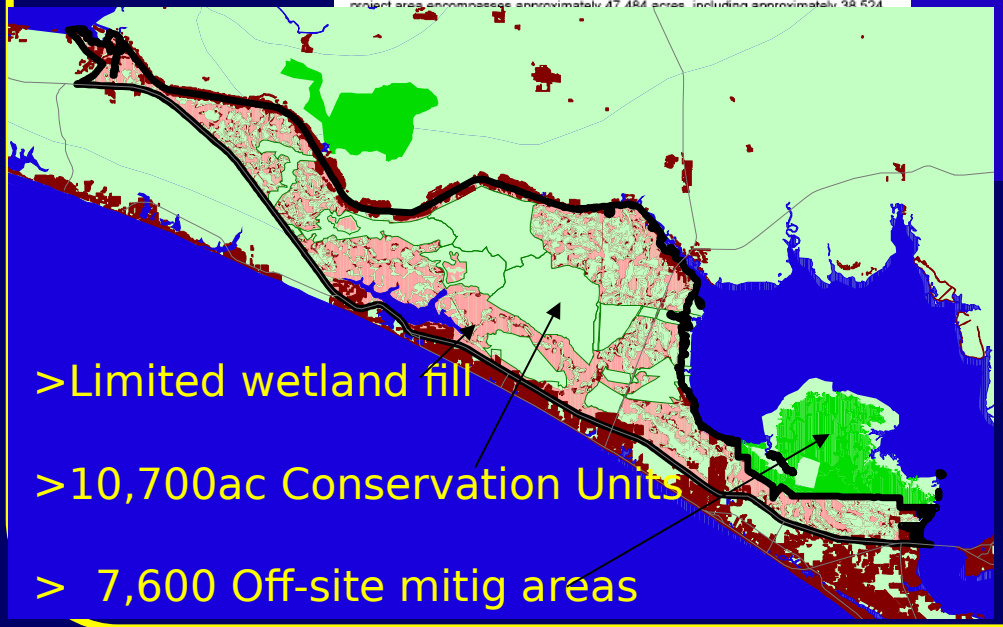
PUBLIC NOTICE

Regional General Permit SAJ-86

Residential, Commercial, Recreational, and Institutional Fill in
West Bay, Lake Powell, and Choctawhatchee Bay Basins
Bay and Walton Counties, Florida

TO WHOM IT MAY CONCERN: This district is proposing a Department of the Army Regional General Permit (RGP) pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), as described below:

WATERWAY & LOCATION: The proposed RGP is limited to non-navigable and non-tidal waters, including wetlands, which are located in three large watersheds including the Lake Powell watershed, and various drainage basins of the Choctawhatchee Bay and West Bay watersheds within southeastern Walton County and southwestern Bay County. The RGP project area encompasses approximately 47,484 acres, including approximately 38,524



- Important ecological areas identified up-front.
- Then landowners design projects to address
- Submitted for

Jacksonville District's Watershed Initiative

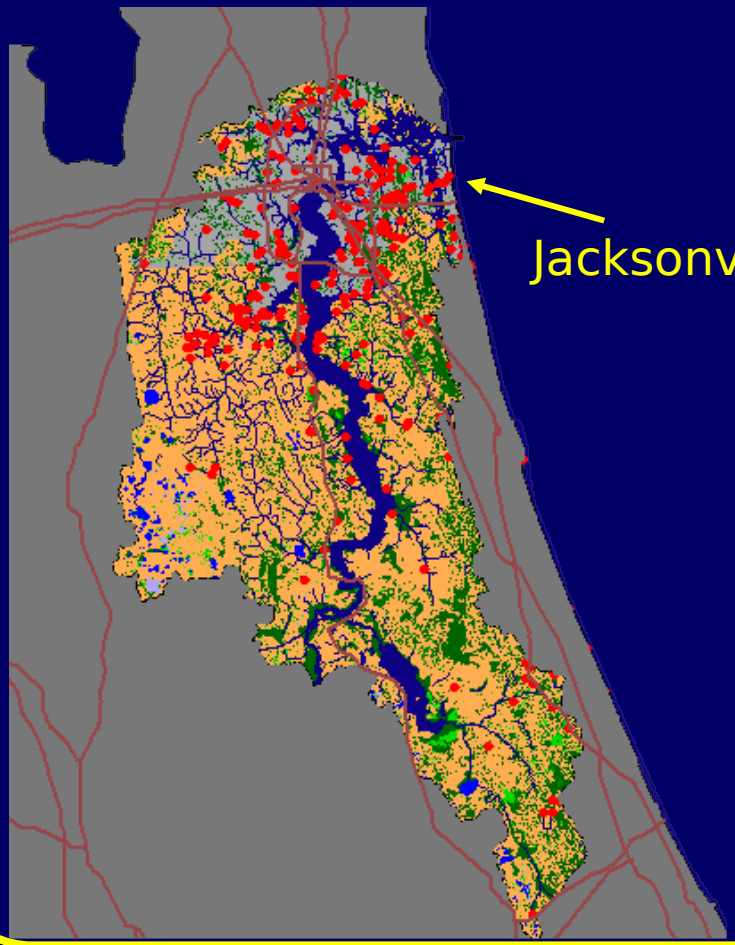
- More formally instituting a watershed approach in the day-to-day operation of the program.
- Based on lessons learned on smaller efforts.
- Components of initiative include:
  - Assigning staff as watershed "champions."
  - Identifying what/where key resources.
  - Monitoring/assessment by watershed.
- E.g, watershed #20 includes parts of 6 Counties.

Jacksonville District's Watershed Initiative

- We've divided up the 4500+/- basins into 28 watersheds, but those are divided into 87 sub-watersheds based on local ecolog
- From variety of smaller efforts, we've learned
  - Not to make watershed too small or too large.
  - Emphasis on systematizing existing knowledge.
- Therefore,
  - Uses considerable knowledge & expertise of staff.
  - They are given a watershed to personally "champion".

Also useful for Cumulative Assessment

This is an example of recent analysis.



Wetland: 429,454ac (26% of fastland)

<u>Nationwide Fill:</u>

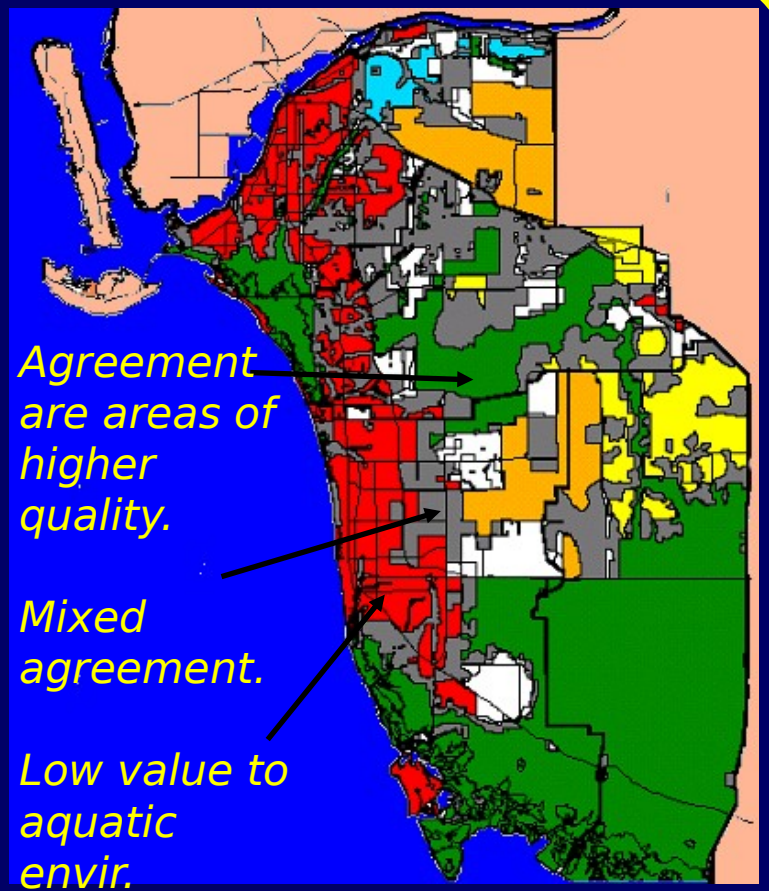
Verified avg 27.9ac/yr

NW-Pre- June 5, 2000: 0.008% of wetland/yr

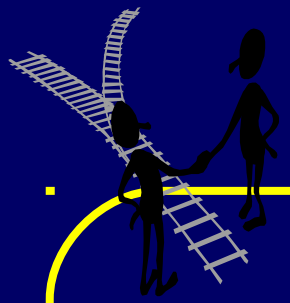
NW-Post- June 5, 2000: 0.004% of wetland/yr

Intend to use this approach to:

- Identify & try to avoid highest quality aquatic resources.
- Provide public information on resources most important to the watershed/ecosystem.
- Assess most appropriate watershed mitigation.
- Identify candidate areas for developing regional general permits.



This is an example of an analysis of a 1,500 sq mile area.

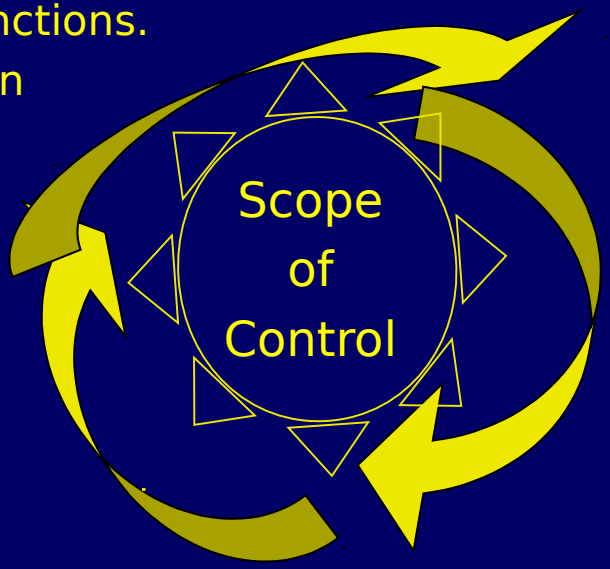


Links elements of Permit Review

Watershed:

Identify aquatic functions.

what is important in watershed?



Functional Assessment:

Measure key functions.

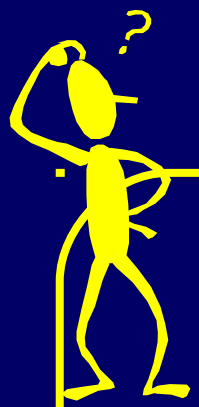
Tailor avoidance & compensation.

Cumulative Assessment:

Incrementally build corridors, reserves, &c.

Does current permit (& likely future ones) highly influence that issue?

Will watershed-based mitigation make development self-limiting?



Thank You

Bob Barron, robert.b.barron@usace.army.mil, (904) 232-2203, Regulatory Division, Jacksonville District, P.O. Box 4970, Jacksonville, FL 32232-0019

John Hall, Regulatory Division, Jacksonville District

Tim Feather, feathertd@cdm.com, (618) 549-2832, CDM Federal Programs, 2845 S. Illinois Ave., Carbondale, IL 62903